WHAT IS CLAIMED IS:

1. A method of elongating a glass preform, comprising:

holding both ends of a glass preform having holes extending in the longitudinal direction by a first holding member and a second holding member, respectively; and

successively heat-melting the glass preform from an end thereof by a heating means while increasing the distance between the first holding member and the second holding member in the longitudinal direction of the glass preform so as to elongate the glass preform;

wherein the glass preform is elongated by heat-melting with the heating means so that the temperature T satisfies a relation represented by Eq. 1.

$$11[°C/mm]\cdot D[mm] + 860[°C] < T[°C] < 17[°C/mm]\cdot D[mm] + 880[°C] \quad \ldots (1)$$

where D is the outer diameter of a post-elongation glass preform, and T is the maximum temperature of a softened portion of the glass preform (pre-elongation) heat-melted by the heating means.

2. A method of elongating a glass preform according to claim 1, wherein the glass preform is heat-melted by moving the heating means from an end of the glass preform to the other end at a velocity in the range of not less than 4 mm/min and not more than 20 mm/min relative to the glass preform.

3. A method of elongating a glass preform according to claim 1 or 2, wherein the glass preform is elongated in a manner such that the relationship Eq. 2 is satisfied:

$$0.6 \cdot S[mm] < D[mm] < 0.98 \cdot S[mm] \quad \ldots (2)$$

where S is the outer diameter of the glass preform (pre-elongation) and D is the outer diameter of the post-elongation glass preform.

4. A method of elongating a glass preform according to any one of claims 1 to 3, wherein the glass preform is elongated while a gas is passed through the holes thereof.